



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/020,468 | 10/29/2001 | Takahiro Hosomi | 15038 | 9303 |

23389 7590 11/15/2005

SCULLY SCOTT MURPHY & PRESSER, PC
400 GARDEN CITY PLAZA
SUITE 300
GARDEN CITY, NY 11530

EXAMINER

RAMAKRISHNAIAH, MELUR

ART UNIT PAPER NUMBER

2643

DATE MAILED: 11/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/020,468

Applicant(s)

HOSOMI, TAKAHIRO

Examiner

Melur Ramakrishnaiah

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Hikosou et al. (JP08-008782, hereinafter Hikosou).

Regarding claim 1, Hikosou discloses a receiver used in a spread spectrum communication system comprising: based band signal power detecting unit (reads on calculating C/N ratio, paragraph 38) for detecting power of a base band signal which is obtained by analog to digital converting an output of a quadrature demodulators (constituted by 12, 13-15, and 18, Drawing 1), wherein quadrature demodulator demodulates an intermediate frequency signal, a symbol rate signal power detecting unit (18, Drawing 1) for detecting power of the symbol rate which is obtained by despreading the base band signal, an error rate detecting unit (implied, see paragraph: 0037 and abstract) for detecting an error rate of desired wave on a basis of the symbol rate signal, and an AGC amplifier controlling unit (24, Drawing 1) for controlling a gain of the AGC amplifier (11, Drawing 1) depending upon the outputs of the based band signal detecting unit, the symbol rate signal power detecting unit and the error rate detecting unit (Drawings: 2-3, paragraphs: 0032 - 0038).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hikosou in view of Yamaguchi et al. (JP11-355376, hereinafter Yamaguchi).

Regarding claim 2, Hikosou does not explicitly teach the following: the amplifier controlling unit decreases the gain of the AGC amplifier, when the signal to (S/N) of the desired wave is judged to be high on a basis of the output of the symbol rate power detecting unit.

However, Yamaguchi discloses receiver and reception method which teaches the following: obtaining I and Q signals by synchronous detection, using this result to lower the power using AGC control (paragraph: 0017).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Hikosou's system to provide for the following: the amplifier controlling unit decreases the gain of the AGC amplifier, when the signal to (S/N) of the desired wave is judged to be high on a basis of the output of the symbol rate power detecting unit as this arrangement would enable to conserve power of the receiver depending upon the received signal power, thus facilitating power conservation in receivers such as mobile communication devices where battery power is at a premium.

Art Unit: 2643

4. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hikosou in view of Maruyama (JP11-297343) and Jansen (JP10-013282).

Regarding claims 3-5, Hikosou does not explicitly teach the following: the AGC amplifier controlling unit increases the gain of the AGC amplifier so that output of the symbol rate signal power-detecting unit coincides with reference symbol rate signal power, when S/N ration of the desired wave is judged to be low on a basis of the output of the symbol rate power-detecting unit; the AGC amplifier-controlling unit decreases a predetermined reference symbol rate signal power, when an error rate of the desired wave detected on a basis of the symbol rate signal is low, and decreases the gain of the AGC amplifier so that output of the symbol rate signal power-detecting unit coincides with the decreased reference rate symbol rate signal power; the AGC amplifier-controlling unit increases a predetermined reference symbol rate signal power, when the error rate of the desired wave detected on a basis of the symbol rate signal is high, and increases the gain of the AGC amplifier so that the output of the symbol rate signal power detecting unit coincides with the increased reference symbol signal power.

However, it is well-known technique that depending upon the reception quality of the SNR, BER, and others, raising the gain of the AGC in order to improve the reception quality when the reception quality is unsatisfactory, and lowering the gain of the AGC in order to lower the power consumption when the reception quality is good. For example Maruyama discloses raising the gain of the RF amplification circuit when the error rate is more than a predetermined value (claims 1-3) and Jansen discloses controlling the

Art Unit: 2643

AGC gain in order to lessen the power consumption while maintaining the bit error rate within a given range (claims 1, 5 and paragraphs: 0002-0010).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Hikosou's system to provide for the following: the AGC amplifier controlling unit increases the gain of the ADC amplifier so that output of the symbol rate signal power-detecting unit coincides with reference symbol rate signal power, when S/N ratio of the desired wave is judged to be low on a basis of the output of the symbol rate power-detecting unit; the AGC amplifier-controlling unit decreases a predetermined reference symbol rate signal power, when an error rate of the desired wave detected on a basis of the symbol rate signal is low, and decreases the gain of the AGC amplifier so that output of the symbol rate signal power-detecting unit coincides with the decreased reference rate symbol rate signal power; the AGC amplifier-controlling unit increases a predetermined reference symbol rate signal power, when the error rate of the desired wave detected on a basis of the symbol rate signal is high, and increases the gain of the AGC amplifier so that the output of the symbol rate signal power detecting unit coincides with the increased reference symbol signal power as this arrangement would facilitate to obtain optimum operating conditions for receiver with respect to power consumption, error rate etc as taught by Maruyama and Jansen.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hikosou in view of Sekine (JP11-313028).

Regarding claim 6, Hikosou does not teach the following: AGC-controlling unit is supplied with an output of a means for detecting power of one of physical channels instead of the output of the symbol rate signal power-detecting unit.

However, Sekine discloses multiplex communication system which teaches the following: performing AGC gain control on the basis of a physical channel which has been multiple coded (Drawing: 1, paragraphs: 0018-0032).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Hikosou's system to provide for the following: AGC-controlling unit is supplied with an output of a means for detecting power of one of physical channels instead of the output of the symbol rate signal power-detecting unit as this arrangement would provide means to implement well-known technique for AGC gain control on the basis of a physical channel which has been multiple coded as taught by Sekine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melur Ramakrishnaiah whose telephone number is (703) 305-1461. The examiner can normally be reached on M-F 6:30-4:00; every other F Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (703)305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2643

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Melur Ramakrishnaiah
Primary Examiner
Art Unit 2643